

## A Catalog of Hawaiian Acarina<sup>1,2</sup>

L.E. GARRETT<sup>3</sup> AND F.H. HARAMOTO<sup>4</sup>

**Abstract:** This paper contains a systematic list of species and bibliography of the acarina which occur in the Hawaiian Islands. The species total 210 of which 43 are recorded here for the first time.

Hawaiian species of acarina have been reported through the years by numerous workers. An attempt was made to include all references to Hawaiian species but it is possible that some were missed. Several species are included from the collections of the University of Hawaii and the Bernice P. Bishop Museum which are new records for Hawaii. The islands represented are Kure, Midway, Pearl and Hermes Reef, Lisianski, Laysan, Gardner Pinnacles, French Frigate Shoals, Necker, Nihoa, Kauai, Oahu, Molokai, Lanai, Maui, Kahoolawe, and Hawaii. When no specific locality is given in the reference, the locality is stated as Hawaiian Islands.

The species names used are the most recent that we were able to find. However, in some cases, especially the earlier references, some out-dated names may be unwittingly included. Synonyms included in the catalog are only those used in the literature on Hawaiian mites.

The known Hawaiian mite fauna now totals 210 species belonging to 67 families and 138 genera. Forty-three species are recorded here for the first time from Hawaii.

In general, the families are listed in the order used by Baker et al. in their *Guide to the Families of Mites*, 1958, but with some changes by the authors to agree with recent revisions.

The literature is listed in two sections. Articles and books are listed under bibliography. Notes from the PROCEEDINGS OF THE HAWAIIAN ENTOMOLOGICAL SOCIETY are listed under the name of the person who made the note. When notes are mentioned in the catalog, refer to the section on notes of the Proceedings. An appendix lists those species reported for the first time from Hawaii.

### SUBORDER METASTIGMATA

#### Family Argasidae

*Ornithodoros capensis* Neumann, 1901

Laysan Island. ex. nests of *Diomedea immutabilis*, *Diomedea nigripes*,  
*Puffinus pacificus*. Wilson 1964b.

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<sup>3</sup>Research Assistant. Bernice P. Bishop Museum, Honolulu, Hawaii.

<sup>4</sup>Assistant Entomologist. University of Hawaii, Honolulu, Hawaii.

*Ornithodoros capensis* group

French Frigate Shoal. Human bites reported. Joyce's note 1953.  
Kure Island. Beardsley's note 1965.

Laysan Island. ex. ground near lagoon, under dead albatrosses,  
under *Nama*. Butler 1961, Butler & Usinger 1963b; ex. nest  
of *Diomedea immutabilis*. Kohls, Sonenshine & Clifford 1965.

Necker Island. Beardsley 1966.

Oahu. ex. *Anous stolidus*. Kohls, Sonenshine & Clifford 1965.

Pearl and Hermes Reef. ex. albatross. Kohls, Sonenshine &  
Clifford 1965.

*Ornithodoros denmarki* Kohls, Sonenshine & Clifford, 1965

Oahu. ex. *Anous stolidus pileatus*. Kohls, Sonenshine & Clifford  
1965.

*Otobius megnini* (Dugès, 1884)

= *Ornithodoros megnini* (Dugès), Neumann 1896

Hawaii. ex. cattle. Zimmerman 1944, Alicata 1941, Alicata  
1947, Cuckler & Alicata 1943.

Kahoolawe. ex. sheep. Alicata 1947, Cuckler 1943.

Mau'i. ex. cattle. Zimmerman 1944, Alicata 1947, Cuckler  
& Alicata 1943.

Molokai. ex. cow. Zimmerman 1944.

Oahu. ex. cattle. Zimmerman 1944, Alicata 1941, Alicata  
1947, Cuckler & Alicata 1943; ex. dairy house. Bishop  
Museum collection.

Hawaiian Islands. Bonnet 1948.

**Family Ixodidae***Amblyomma americana* (Linnaeus, 1758)

Oahu. Honolulu Quarantine Station. ex. dog from Virginia.  
Joyce's note 1965. No evidence of species being established  
in Hawaii.

*Dermacentor albipictus* (Packard, 1869)

Oahu. ex. horse from United States. Joyce's note 1958.

Hawaiian Islands. ex. horse from United States. Fullaway's  
note 1959.

*Dermacentor variabilis* (Say, 1821)

Oahu. Honolulu Quarantine Station. ex. dog from Greenwich,  
Connecticut, dog from New Jersey. Joyce's note 1959;  
ex. dog. Davis' note 1964, Joyce's note 1965; eggs hatched  
and destroyed. Joyce's note 1965. No evidence of species  
being established in Hawaii.

*Haemaphysalis wellingtoni* Nuttall & Warburton, 1915

Oahu. Honolulu Quarantine Station. ex. Malay argus pheasant  
from Thailand. Joyce's note 1965. No evidence of species  
being established in Hawaii.

*Ixodes laysanensis* Wilson, 1964

=*Ixodes* sp.

Laysan Island. ex. *Arenaria interpres*, *Diomedea immutabilis*, *Puffinus pacificus*. Wilson 1964b; ex. ear of Laysan teal. Butler 1961, Butler & Usinger 1963b.

*Ixodes pacificus* Cooley & Kohls, 1943

Oahu. Honolulu Quarantine Station. ex. dog from Seattle, Washington. Joyce's note 1961. No evidence of species being established in Hawaii.

*Ixodes ricinus* Linnaeus, 1746

Oahu. Honolulu Quarantine Station. ex. dog from Germany. Joyce's note 1962. No evidence of species being established in Hawaii.

*Rhipicephalus sanguineus* Latrielle, 1806

Hawaii. ex. dog. Bishop Museum collection.

Kauai. ex. dog. Bishop Museum collection.

Maui. ex. cat. Bishop Museum collection.

Oahu. ex. dog. Fullaway's note 1922, Van Zwaluwenburg's note 1934, Bishop Museum collection.

Hawaiian Islands. Alicata 1947, Bonnet 1948; ex. dogs. Pemberton 1943.

### Miscellaneous ticks

Ex. dogs' ears on Oahu. Bryan's note 1921. (Now identified as *Rhipicephalus sanguineus* Latrielle).

Ex. nesting material of *Diomedea immutabilis* and *Diomedea nigripes*. Clagg's note 1965. (Now identified as *Ornithodoros capensis* group.)

Bird ticks abundant on Laysan, Kure, Pearl and Hermes Reef, Lisianski, Gardner, Necker, Nihoa, French Frigate Shoal. Bryan 1926. (Now identified as *Ornithodoros capensis* group.)

### SUBORDER MESOSTIGMATA

### Family Liroaspididae

*Liroaspis armatus* Fox, 1947

Hawaii. ex. soil, surface debris under screw pines. Bishop Museum collection.

### Family Blattisociidae

*Asca aphidioides* (Linnaeus, 1758)

Oahu. ex. Eucalyptus litter. Hurlbutt 1963.

*Asca garmani* Hurlbutt, 1963.

Hawaii. ex. Portuguese cypress. Hurlbutt 1963.

- Oahu. ex. banana litter and sugarcane litter. Hurlbutt 1963.  
*Asca quinquesetosa* Wharton, 1941  
Oahu. ex. litter, *Thevetia peruviana* and *Stephanotis floribundus*.  
Hurlbutt 1963.  
*Asca spicata* Hurlbutt, 1963  
Hawaii. ex. *Metrosideros collina*. Hurlbutt 1963.  
Oahu. ex. *Cordyline terminalis*. Hurlbutt 1963.  
*Blattisocius dendriticus* (Berlese, 1918)  
= *Melichares dendriticus* (Berlese), Evans, 1958  
= *Lasioseius* (*Lasioseius*) *dendriticus* Berlese, 1918  
Oahu. ex. furniture, recently from Japan. University of  
Hawaii collection.  
*Blattisocius keegani* (Fox, 1947)  
= *Melichares* (*Blattisocius*) *keegani* (Fox), Evans, 1959  
Oahu. ex. *Rattus*. University of Hawaii collection.  
*Blattisocius tarsalis* (Berlese, 1918)  
Hawaii. ex. nests of Hawaiian crow. University of Hawaii  
collection.  
*Proctolaelaps bickleyi* (Bram, 1956)  
Hawaiian Islands. ex. wood cuttings. Chant 1963.  
*Proctolaelaps pygmaeus* (Müller, 1859)  
= *Proctolaelaps hypudaei* (Oudemans, 1902)  
Hawaii. ex. soil surface debris under mixed forest. Bishop  
Museum collection.  
Oahu. ex. *Cryptophlebia illepida*, red beet tuber. University  
of Hawaii collection.

### Family Rhodacaridae

*Gamasiphis* sp.

Laysan Island. Butler & Usinger 1963b.

### Family Veigaiaidae

*Veigaia nemorensis* (Koch, 1839)

Hawaii. ex. debris under *Metrosideros collina*. Bishop Museum  
collection.

### Family Macrochelidae

*Glyptolaspis americana* (Berlese, 1888)

Oahu. ex. *Scarabaeidae*. Bishop Museum collection.

*Macrocheles muscaedomesticae* (Scopoli, 1772)

Oahu. ex. phorid and sciomyzid flies. Kim's note 1962.

### Family Parholaspididae

*Holaspulus tenuipes* Berlese, 1903

Oahu. ex. guava litter. University of Hawaii collection.

### Family Podocinidae

*Podocinum pacificum* Berlese, 1896

Hawaii. ex. soil litter. University of Hawaii collection.

Oahu. ex. soil litter. University of Hawaii collection.

### Family Halarachnidae

*Pneumonyssoides caninum* (Chandler & Ruhe, 1940)

= *Pneumonyssus caninum* Chandler & Ruhe, 1940

Oahu. ex. frontal sinuses and turbinales of dog. Bonnet's note 1952.

### Family Rhinonyssidae

*Mesonyssus geopeliae* Fain, 1964

Oahu. ex. *Geopelia striata striata*. Wilson 1966, Bishop Museum collection.

*Ptilonyssus hirsti* (Castro & Pereira, 1947)

= *Paraneonyssus hirsti* (Castro & Pereira), Strandtmann & Whar-ton, 1958.

Hawaii. ex. *Passer domesticus*. Wilson 1964a.

*Rhinonyssus coniventris* Trouessart, 1894

Oahu. ex. *Pluvialis dominica*. Wilson 1964a.

### Family Haemogamasidae

*Eulaelaps stabularis* (Koch, 1836)

Hawaii. ex. *Mus musculus* and *Rattus exulans*. Bishop Museum collection.

### Family Dermanyssidae

*Dermanyssus gallinae* (De Geer, 1778)

Hawaiian Islands. ex. chickens. Alicata 1947, Pemberton 1943; ex. chicken houses. Bice 1932; biting humans. Pemberton 1943.

*Hirstionyssus latiscutatus* (de Meillon & Lavoipierre, 1944)

= *Hirstionyssus musculi* (Johnston, 1849), Bregetova, 1956

Hawaii. ex. *Rattus exulans*, *Rattus hawaiiensis*. Bishop Museum collection.

*Ornithonyssus bacoti* (Hirst, 1913)

= *Liponyssus bacoti* (Hirst), Hirst, 1920

= *Bdellonyssus bacoti* (Hirst), Fonseca, 1941

Oahu. ex. *Rattus exulans*, *Rattus rattus*, *Rattus norvegicus*. Mitchell 1964; ex. rodents. Bonnet 1948; ex. rat. University of Hawaii collection; ex. *Mus musculus*. Bishop Museum collection; ex. *Rattus norvegicus*, *Rattus rattus*, *Rattus hawaiiensis*. Cole & Koepke 1947.

*Ornithonyssus bursa* (Berlese, 1888)

= *Liponyssus bursa* (Berlese), Hirst, 1916

Hawaii. ex. nests of Hawaiian crow. University of Hawaii collection.

Oahu. ex. nests of English sparrows and mynah birds.

Zimmerman 1944, Alicata 1947, Bishop Museum collection; human irritation from bite. Bonnet 1948; invading dwelling. Erhorn 1931, University of Hawaii collection.

Hawaiian Islands. Pemberton 1945; Strandtmann & Wharton 1958; diagnosis and management of bites. Arnold & Arnold 1943.

*Ornithonyssus sylviarum* (Canestrini & Fanzago, 1877)

Hawaii, ex. bird nest. Bishop Museum collection.

Oahu. ex. chicken feather. Bishop Museum and University of Hawaii collections.

*Steatonyssus (Steatonyssella) furmani* Tipton & Boese, 1958

Hawaii. ex. *Lasiurus cinereus semotus*. Bishop Museum collection.

### Family Phytoseiidae

*Amblyseius (Amblyseius) caudatus* Berlese, 1914

= *Typhlodromus (Amblyseius) caudatus* (Berlese), Chant, 1957  
Hawaiian Islands. Chant 1959.

*Amblyseius (Amblyseius) largoensis* (Muma, 1955)

= *Typhlodromus (Amblyseius) largoensis* (Muma), Chant, 1959  
Kure Island. Butler & Usinger 1963a.

Laysan Island. ex. *Sicyos hispidus*. Butler & Usinger 1963b.

Maui. ex. cypress. University of Hawaii collection.

*Amblyseius (Amblyseius) longispinosus* (Evans, 1952)

Oahu. ex. sugarcane leaf. University of Hawaii collection.

*Amblyseius (Amblyseius) orientalis* Ehara, 1959

Hawaii. ex. Monterey pine and cypress. University of Hawaii collection.

*Amblyseius (Amblyseius) ovalis* (Evans, 1953)

= *Typhlodromus (Amblyseius) ovalis* Evans, 1953  
Hawaiian Islands. Chant 1959.

*Phytoseiulus macropilis* (Banks, 1905)

= *Laelaps macropilis* Banks, 1905

= *Hypoaspis macropilis* (Banks), Banks, 1915

= *Phytoseiulus speyeri* Evans, 1952

Hawaii. ex. papaya, *Pipturus albidus* leaves. University of Hawaii collection.

Oahu. ex. watermelon, spider mites on sweet potato, corn leaf. University of Hawaii collection.

Hawaiian Islands. Chant 1959.

*Phytoseius (Dubininellus) macropilis* (Banks, 1909)

= *Sejus macropilis* Banks, 1909

= *Seiulus spoofi* Oudemans, 1915

Hawaii. ex. cypress. University of Hawaii collection.

Molokai. ex. *Cassia*. University of Hawaii collection.

Oahu. ex. litchi leaves, coffee leaves, avocado. University of Hawaii collection.

Hawaiian Islands. Cunliffe & Baker 1953.

*Typhlodromus* sp.

Oahu. Predator on *Tarsonemus* and other mites. Weber 1953.

*Typhlodromus* (*Neoseiulus*) *bakeri* (Garman, 1948)

Oahu. ex. *Lonchura punctulata* nest. Bishop Museum collection.

### Family Otopheidomenidae

*Dicrocheles phalaenodectes* (Treat, 1954)

= *Myrmonyssus phalaenodectes* Treat, 1954

Kauai. ex. *Cirphis amblycasis*. Treat 1955.

### Family Laelapidae

*Androlaelaps hermaphrodita* (Berlese, 1903)

= *Androlaelaps setosus* Fox, 1946

Hawaii. ex. *Mus musculus* nest (active), *Rattus hawaiiensis* nest, unidentified bird nest (inactive), *Rattus exulans* nest. Bishop Museum collection.

Oahu. ex. *Rattus exulans hawaiiensis*, *Rattus norvegicus* and *Mus musculus*. Joyce's note 1962; ex. *Rattus exulans* and *Rattus rattus*. Mitchell 1964.

*Cosmolaelaps diversichaetatus* Grochovskaya & Nguen-Huan-Hoe, 1961

Oahu. ex. *Scolopendra*. Bishop Museum collection.

*Haemolaelaps fenilis* Megnin, 1876

= *Haemolaelaps casalis* (Berlese, 1887)

= *Haemolaelaps megaventralis* (Strandtmann, 1947)

Hawaii. ex. *Lonchura punctulata* nest (inactive) and dog. Bishop Museum collection.

Oahu. ex. coconut. Chilson's note 1954; ex. nest of *Lonchura punctulata*. Bishop Museum collection.

*Laelaps* (*Echinolaelaps*) *echidinina* Berlese, 1887

Hawaii. ex. *Rattus norvegicus*, *Rattus hawaiiensis*, *Mus musculus* nest. Bishop Museum collection.

Kauai. ex. *Rattus norvegicus* and *Rattus hawaiiensis*. University of Hawaii collection.

Maui. ex. rat. Bishop Museum collection.

Oahu. ex. *Rattus exulans*, *Rattus rattus*, *Rattus norvegicus*. Mitchell 1964; ex. *Rattus rattus*. Bishop Museum collection; ex. *Rattus norvegicus*, *Rattus rattus*, *Rattus hawaiiensis*. Cole & Koepke 1947.

Hawaiian Islands. Strandtmann & Wharton 1958; ex. rats. Pemberton 1943.

*Laelaps nuttalli* Hirst, 1916

= *Laelaps hawaiiensis* Ewing, 1924

Hawaii. ex. *Rattus hawaiiensis*. Ewing 1924; ex. *Rattus*

*norvegicus*, *Rattus exulans*, *Rattus hawaiiensis*, rat nest, inactive bird nest. Bishop Museum collection.

Maui. ex. *Rattus*. Bishop Museum collection.

Oahu. ex. *Rattus exulans*, *Rattus rattus*, *Rattus norvegicus*. Mitchell 1964; ex. *Rattus rattus*. Bishop Museum collection; ex. *Rattus norvegicus*, *Rattus rattus*, *Rattus hawaiiensis*. Cole & Koepke 1947.

Hawaiian Islands. Bonnet 1948, Strandtmann & Wharton 1958; ex. rats. Pemberton 1943.

*Stratiolaelaps gurabensis* (Fox, 1946)

Hawaii. ex. *Rattus* nest. Bishop Museum collection.

Oahu. ex. *Rattus rattus*. Mitchell 1964; ex. treehole debris. Bishop Museum collection.

### Family Uropodidae

*Uropoda* sp.

Oahu. ex. *Copris incertus prociduus*. Krauss' note 1947.

#### SUBORDER PROSTIGMATA

### Family Eriophyidae

*Aceria aloinis* (Keifer, 1941)

= *Eriophyes aloinis* Keifer, 1941

Oahu. University of Hawaii collection.

*Aceria ficus* (Cotte, 1920)

Oahu. ex. young leaves of edible fig. Tanada's note 1952.

*Aceria litchii* (Keifer, 1943)

= *Eriophyes litchii* Keifer, 1943.

= *Eriophyes chinensis* Trotter, 1900

= *Eriophyes* sp.

Hawaii. ex. litchi leaves. Pemberton's note 1944.

Molokai. ex. *Litchi chinensis*. Hawaii Cooperative Economic Insect Report, July 8, 1966.

Oahu. ex. *Litchi chinensis*. O'Gara 1916, Keifer 1943.

Hawaiian Islands. ex. litchi. Holdaway & Nishida's note 1944.

*Aceria lycopersici* (Wolfenstein, 1879)

= *Vasates lycopersici* (Massee), Lamb 1953

= *Eriophyes lycopersicae* Massee, 1939

= *Vasates destructor* (Keifer), Keifer 1952

= *Phyllocoptes destructor* Keifer, 1940

Maui. ex. tomato. Holdaway's note 1944.

Oahu. ex. tomato. Holdaway's note 1944, Nishida's note 1944, Look's note 1944; ex. tomato leaves. University of Hawaii collection.

Hawaiian Islands. ex. *Solanum nodiflorum*. Schmidt's note 1943.



- Aceria mangiferae* (Sayed, 1946)  
 = *Eriophyes mangiferae* Sayed, 1946  
 Oahu. ex. leaf scales. Nishida's note 1947.
- Aceria neocynodonis* Keifer, 1960  
 Kauai. ex. Bermuda grass. University of Hawaii collection,  
 Hawaii Cooperative Economic Insect Report, September  
 23, 1966.  
 Oahu. ex. Bermuda grass. University of Hawaii collection,  
 Hawaii Cooperative Economic Insect Report, October 14,  
 1966.
- Aceria pisoniae* Keifer, 1964  
 Oahu. ex. *Pisonia* leaf. Shiroma's note 1965.
- Aceria sheldoni* (Ewing, 1937)  
 = *Eriophyes sheldoni* Ewing, 1937  
 Oahu. ex. Mandarin orange. Boyce's note 1939.
- Aceria swezeyi* (Keifer, 1940)  
 = *Eriophyes swezeyi* Keifer, 1940  
 = *Aceria* sp.  
 Hawaii. ex. *Diospyros ferrea* var. *pubescens* form *sclerophylla*.  
 Krauss' note 1963; ex. *Diospyros* sp. Hawaii Cooperative  
 Economic Insect Report, May 6, 1966.  
 Oahu. ex. *Maba sandwicensis*. Keifer 1940.
- Aculus broussaisiae* Keifer, 1964  
 Oahu. ex. *Broussaisia* leaf. Shiroma's note 1965.
- Oxypleurites mangiferae* Keifer, 1946  
 Hawaii. ex. mango leaves. Williams' note 1946, untitled note  
 1947; ex. *Mangifera indica*. Keifer 1946.
- Phyllocoptruta oleivora* (Ashmead, 1879)  
 = *Phyllocoptes oleivora* (Ashmead), (sic) Pope, 1934  
 Hawaii. ex. citrus plants. Look's note 1946.  
 Kauai. ex. tangerines. Hawaii Cooperative Economic  
 Insect Report, July 29, 1966.  
 Oahu. ex. citrus sp. University of Hawaii collection, Tanada's  
 note 1951.  
 Hawaiian Islands. ex. citrus. Kirkaldy 1905; ex. lemons  
 and oranges. Illingworth 1929a; ex. orange trees.  
 Pope 1934.
- Tegonotus hibiscella* Keifer, 1946  
 = *Epitrimerus* sp.  
 Hawaii. ex. hibiscus. Look's note 1946; ex. *Hibiscus* possibly  
*rosa-sinensis*. Keifer 1946.  
 Oahu. ex. hibiscus. Look's note 1953; ex. *Hibiscus* sp.  
 University of Hawaii collection.
- Miscellaneous Eriophyid mites*

- Oahu. ex. leaves of *Stemmadenia*. Fullaway's note 1947; ex. spider lily. University of Hawaii collection.  
Hawaiian Islands. ex. litchi leaves. Illingworth's note 1939.

**Family Eupodidae**

*Eupodes* sp.

- Hawaii. ex. Monterey pine. University of Hawaii collection.

**Family Tydeidae**

*Paralorryia*?

- Maui. ex. cypress. University of Hawaii collection.

*Tydeus californicus* (Banks, 1904)

- Hawaii. ex. *Myrica faya*. University of Hawaii collection.

- Maui. ex. peach and plum leaf. University of Hawaii collection.

- Oahu. ex. citrus leaves. University of Hawaii collection.

*Miscellaneous Tydeid mites*

- Hawaii. ex. coffee leaves. Sherman's note 1954.

- Oahu. ex. coffee leaves. Sherman's note 1954.

**Family Bdellidae**

*Bdella distincta* Baker & Balock, 1944

- Hawaiian Islands. ex. pine cones. Chilson's note 1963, Atyeo 1960.

*Bdellodes longirostris* (Hermann, 1804)

- Kure Island. Butler & Usinger 1963a.

**Family Halacaridae**

*Copidognathus matthewsi* Newell, 1956

- Oahu. ex. Kaneohe Bay. Newell 1956b.

**Family Raphignathidae**

*Raphignathus* sp.

- Hawaiian Islands. ex. pheasant. Schwartz & Schwartz 1949.

**Family Stigmaeidae**

*Agistemus terminalis* (Quayle, 1912)

- Hawaii. ex. Monterey pine and cypress. University of Hawaii collection.

- Maui. ex. cypress. University of Hawaii collection.

- Oahu. ex. jasminum leaf. University of Hawaii collection.

**Family Cryptognathidae**

*Cryptognathus favius* Summers & Chandhri, 1965

- Midway Island. ex. *Diomedea immutabilis*. Bishop Museum collection.

**Family Iolinidae**

*Iolina nana* Pritchard, 1956

- Hawaiian Islands. ex. *Diplotera dystiscoides*. Pritchard 1956.

**Family Tetranychidae**

*Bryobia praetiosa* Koch, 1836

Hawaii. ex. Kikuyu grass. University of Hawaii collection.

Maui. ex. clover leaves. Haramoto's note 1961.

Oahu. ex. litter. University of Hawaii collection.

*Eotetranychus lewisi* (McGregor, 1943)

Hawaii. ex. *Euphorbia pulcherrima* leaves. University of Hawaii collection.

Oahu. ex. *Euphorbia pulcherrima* leaves. University of Hawaii collection.

*Eotetranychus sexmaculatus* (Riley, 1890)

= *Tetranychus sexmaculatus* Riley, 1890

Oahu. ex. avocado leaves. Boyle's note 1957; ex. flowering plum leaves, guava leaf, poinsettia leaf. University of Hawaii collection.

Hawaiian Islands. ex. citrus. Pope 1934.

*Eutetranychus banksi* (McGregor, 1914)

Maui. ex. lima bean leaves. Hawaii Cooperative Economic Insect Report, May 29, 1966.

Oahu. ex. papaya, croton, breadfruit leaves. Haramoto's note 1961; plumeria, fig and castor bean leaves. University of Hawaii collection.

*Oligonychus biharensis* (Hirst, 1925)

= *Paratetranychus hawaiiensis* McGregor, 1950

= *Paratetranychus biharensis* Hirst, 1925

Oahu. ex. litchi and loquat. Newell's note 1951, McGregor 1950.

*Oligonychus coffeae* (Nietner, 1861)

Oahu. ex. *Terminalia catappa* leaves. Chilson's note 1962.

*Oligonychus coniferarum* (McGregor, 1950)

Oahu. ex. arbor-vitae. University of Hawaii collection.

*Oligonychus exsiccator* (Zehntner, 1897)

= *Tetranychus exsiccator* Zehntner, 1897

= *Oligonychus pratensis* (Banks, 1912), Pritchard & Baker, 1955 (misidentification)

= *Paratetranychus pratensis* (Banks), McGregor, 1919 (misidentification)

= *Oligonychus indicus* (Hirst, 1923), Pritchard & Baker, 1955 (misidentification)

Molokai. ex. sugarcane. Boyle's note 1956.

Oahu. ex. sugarcane. Boyle's note 1956; ex. bamboo. Boyle's note 1956.

Hawaiian Islands. prey of *Oligata* sp. Swezey's note 1923, University of Hawaii collection.

*Oligonychus hondoensis* (Ehara, 1954)

Hawaii. ex. cypress and pine. University of Hawaii collection.

*Oligonychus mangiferus* (Rahman & Sapra, 1940)

= *Paratetranychus insularis* McGregor, 1950

Hawaii. ex. mango. University of Hawaii collection.

Lanai. ex. mango. University of Hawaii collection.

Maui. ex. mango. University of Hawaii collection.

Molokai. ex. mango. Pritchard & Baker 1955.

Oahu. ex. *Eugenia jambos* leaves. Chilson's note 1956;

ex. mango. McGregor 1950, Newell's note 1951, Pritchard & Baker 1955, University of Hawaii collection;

ex. *Calophyllum inophyllum* leaves. University of Hawaii collection; ex. *Annona* sp. Pritchard & Baker 1955.

*Oligonychus yotheri* (McGregor, 1914)

= *Tetranychus yotheri* McGregor, 1914

= *Paratetranychus yotheri* (McGregor), Banks, 1915

Hawaiian Islands. ex. mango. Yee 1963.

*Panonychus citri* (McGregor, 1916)

= *Metatetranychus citri* (McGregor), Reck, 1941

= *Tetranychus citri* McGregor, 1916

Hawaii. ex. papaya and mulberry leaves. University of Hawaii collection.

Maui. ex. tangerine leaves. Boyle's note 1957, University of Hawaii collection.

Oahu. ex. citrus leaves. University of Hawaii collection.

Hawaiian Islands. ex. citrus. Pope 1934.

*Petrobia harti* (Ewing, 1909)

Oahu. ex. *Oxalis* leaves. Haramoto's note 1961.

*Schizotetranychus asparagi* (Oudemans, 1928)

Hawaii. ex. *Asparagus* sp. Pritchard & Baker 1955.

Oahu. ex. *Asparagus plumosus* and *Asparagus officinalis* var. *altilis*. University of Hawaii collection.

*Schizotetranychus celarius* (Banks, 1917)

Oahu. ex. bamboo. Boyle's note 1956.

*Tetranychus* sp.

Hawaii. ex. cotton. Illingworth 1929a.

Molokai. ex. leaves of *Datura stramonium*. Krauss 1944.

*Tetranychus desertorum* Banks, 1900

Hawaii. ex. *Physalis peruviana*. University of Hawaii collection.

Maui. ex. *Physalis peruviana*. University of Hawaii collection.

*Tetranychus ludeni* Zacher, 1910

= *Septanychus deviatarsus* McGregor, 1950

Hawaii. ex. *Physalis peruviana*. University of Hawaii collection.

Maui. ex. greenhouse plants. Newell's note 1951, McGregor 1950; ex. leaves of *Physalis peruviana* and *Perilla frutescens* var. *crispa*. University of Hawaii collection; ex. *Physalis peruviana*. University of Hawaii collection.

Oahu. McGregor 1950; ex. burdock leaves. University of Hawaii collection.

*Tetranychus neocalidonicus* Andre, 1933

= *Tetranychus cucurbitae* Rahman & Punjab, 1958

= *Tetranychus equatorius* McGregor, 1950

Kure Island. ex. *Scaevola*. Butler & Usinger 1963a.

Oahu. McGregor 1950; ex. string beans. Newell's note 1951; ex. hibiscus and peach leaves. University of Hawaii collection; ex. mango. Pritchard & Baker 1955.

*Tetranychus telarius* (Linnaeus, 1761)

= *Tetranychus bimaculatus* Harvey, 1893

Hawaii. ex. *Pipturus albidus* leaves. University of Hawaii collection.

Kure Island. ex. *Ipomoea* and *Codiaeum*. Butler & Usinger 1963a.

Molokai. ex. tomato leaves. Krauss 1944.

Oahu. Boyle 1957; ex. leaves of hibiscus, corn leaf, *Jasminum sambac*. University of Hawaii collection; ex. watermelon. Hawaii Cooperative Economic Insect Report, July 8, 1966; ex. snap beans and eggplant. Hawaii Cooperative Economic Insect Report, March 25, 1966; April 15, 1966; April 29, 1966; July 1, 1966.

Hawaiian Islands. ex. *Phaseolus vulgaris*. Holdaway & Look 1942; Pritchard & Baker 1955; McGregor 1912; ex. coffee. Marsden 1896.

*Tetranychus tumidus* Banks, 1900

Oahu. ex. *Amaranthus spinosus*. University of Hawaii collection; ex. sweet potato. Hawaii Cooperative Economic Insect Report, July 1, 1966.

## Family Tenuipalpidae

*Brevipalpus californicus* (Banks, 1904)

= *Brevipalpus australis* (Tucker, 1926), Baker, 1949

= *Tenuipalpus californicus* Banks, 1904

Hawaii. ex. *Metrosideros collina*. University of Hawaii collection.

Oahu. ex. *Jasminum sambac* leaves. Boyle's note 1957; ex. tangerine fruits, *Vanda joaquin*, castor bean. University of Hawaii collection.

Hawaiian Islands. Pritchard & Baker 1958.

*Brevipalpus lilium* Baker, 1949

Hawaiian Islands. Pritchard & Baker 1958.

*Brevipalpus obovatus* Donnadieu, 1875

= *Brevipalpus bioculatus* (McGregor), Reck, 1952

= *Brevipalpus inornatus* (Banks), Baker 1945

= *Brevipalpus pereger* Donnadieu, 1875

= *Tenuipalpus bioculatus* McGregor, 1914

= *Tenuipalpus inornatus* Banks, 1912

= *Tenuipalpus pseudocuneatus* Blanchard, 1940

Hawaii. ex. *Physalis peruviana*. University of Hawaii collection.

Kure Island. ex. *Ipomoea*. Butler & Usinger 1963a.

Laysan Island. ex. *Scaevola*. Butler 1961, Butler & Usinger 1963b.

Maui. ex. *Physalis peruviana*. University of Hawaii collection.

Oahu. ex. guava. University of Hawaii collection; ex. "solo" papaya. Marlowe's note 1937.

Hawaiian Islands. Pritchard & Baker 1958.

*Brevipalpus phoenicis* (Geijskes, 1939)

= *Tenuipalpus phoenicis* Geijskes, 1939

= *Brevipalpus papayensis* Baker, 1949

Hawaii. ex. *Arundina bambusiflora*. Chilson's note 1959.

Kauai. ex. tangerines. Hawaii Cooperative Economic Insect Report, July 29, 1966.

Lanai. ex. papaya. University of Hawaii collection.

Molokai. ex. papaya. University of Hawaii collection.

Oahu. ex. papaya, *Passiflora*, puncture vine. Zimmerman's note 1956; ex. orange, lemon, *Bryophyllum* sp. Chilson's note 1959; ex. leaves of *Clerodendrum fragrans*, anthurium and passion fruit. University of Hawaii collection; ex. papaya fruit. Hawaii Cooperative Economic Insect Report, March 11, 1966.

Hawaiian Islands. Pritchard & Baker 1958.

*Dolichotetranychus floridanus* (Banks, 1900)

= *Pseudoleptus floridanus* (Banks), Oudemans, 1927

= *Trichadenus floridanus* (Banks), McGregor, 1949

= *Stigmaeus floridanus* Banks, 1900

= *Stigmaeus* sp.

= *Stigmaeodes* sp.

Oahu. ex. pineapple sucker. Erhorn's note 1922; ex. pineapple. University of Hawaii collection.

Hawaiian Islands. ex. pineapple. Chilson's note 1959, Illingworth 1929b, Pritchard & Baker 1958; ex. orchid plants. Fullaway 1938.

*Dolichotetranychus vandergooti* (Oudemans, 1927)

= *Pseudoleptus vandergooti* Oudemans, 1927

Hawaii. ex. *Dendrobium* and *Arundina bambusifolia*. Chilson's note 1959.

Oahu. ex. orchid. University of Hawaii collection.

Hawaiian Islands. Pritchard & Baker 1958.

*Pentamerismus oregonensis* McGregor, 1949

Maui. ex. cypress. University of Hawaii collection.

Oahu. ex. *Thuja*. Haramoto's note 1961.

*Tenuipalpus* sp.

Hawaiian Islands. ex. orchid plants. Fullaway 1938.

*Tenuipalpus irritans*, nomen nudum

Hawaiian Islands. ex. citrus. Pope 1934.

*Tenuipalpus pacificus* Baker, 1945

= *Tenuipalpus orchidarum* Geijskes, 1939

Hawaii. ex. *Polypodium* fern. University of Hawaii collection.

Molokai. ex. *Polypodium phymatodes*. University of Hawaii collection.

Oahu. Look's note 1955; ex. fronds of *Polypodium phymatodes*. University of Hawaii collection.

Hawaiian Islands. ex. *Polypodium phymatodes* and orchids. University of Hawaii collection.

### Family Tuckerellidae

*Tuckerella ornata* (Tucker, 1926)

Oahu. ex. mango stem. Boyle's note 1957; ex. *Erythrina sandwicensis*, pomelo, papaya. University of Hawaii collection.

*Tuckerella pavoniformis* (Ewing, 1922)

= *Eupalopsis pavoniformis* Ewing, 1922

Lanai. ex. *Ilex anomala* f. *sandwicensis*. University of Hawaii collection.

Maui. ex. cypress. University of Hawaii collection.

Oahu. ex. papaya fruit. Baker & Pritchard 1953; ex. guava fruit. University of Hawaii collection.

Hawaiian Islands. ex. hibiscus. Baker & Pritchard 1953; ex. lantana. University of Hawaii collection; ex. *Hibiscus*. Ewing 1922.

### Family Anystidae

*Anystis agilis* Banks, 1894

Maui. ex. leaves of hibiscus. Krauss 1944.

Molokai. ex. *Metrosideros* sp. Krauss 1944.

*Anystis baccarum* (Linnaeus, 1758)

Hawaiian Islands. University of Hawaii collection.

### Family Cheyletidae

*Cheletogenes ornatus* (Canestrini & Fanzago, 1876)

- Oahu. ex. *Ficus* sp. Chilson's note 1959.  
Hawaiian Islands. Baker 1949.  
*Cheyletiella parasitivorax* (Megnin, 1878)  
Oahu. ex. *Oryctolagus cuniculus*. Tomich, Wilson & Lamoureux's unpublished manuscript.  
*Cheyletus eruditus* (Schränk, 1781)  
Oahu. ex. chicken feed. University of Hawaii collection.  
*Cheyletus fortis* Oudemans, 1904  
Oahu. ex. furniture recently from Japan. University of Hawaii collection.  
*Grallacheles bakeri* DeLeon, 1962  
Oahu. ex. vacuumed house litter. University of Hawaii collection.  
*Mexechesles hawaiiensis* (Baker, 1949)  
= *Cheletophyes hawaiiensis* Baker, 1949  
Kauai. ex. litchi. Baker 1949.  
Maui. ex. Chinese banana. Baker 1949; ex. cypress. University of Hawaii collection.  
Oahu. ex. *Morinda citrifolia*. Chilson's note 1959; ex. papaya fruits, loquat, hau. Baker 1949.  
*Paracheyletia wellsi* (Baker, 1949)  
= *Cheyletia wellsi* Baker, 1949  
Oahu. ex. *Leucaena glauca*. University of Hawaii collection.

### Family Harpyrhynchidae

- Harpyrhynchus pilirostris* Berlese & Trouessart, 1889  
Hawaii. ex. *Passer domesticus*. Bishop Museum collection.  
Oahu. ex. *Passer domesticus*. Bishop Museum collection.

### Family Myobiidae

- Myobia musculi* (Schränk, 1781)  
Oahu. ex. mouse. Zimmerman's note 1956.  
Hawaiian Islands. ex. *Mus musculus*. Joyce's note 1957.  
*Radfordia affinis* (Poppe, 1896)  
Oahu. ex. *Mus musculus*. University of Hawaii collection.  
Hawaiian Islands. ex. *Mus musculus*. Joyce's note 1957.  
*Radfordia ensifera* (Poppe, 1896)  
Oahu. ex. *Rattus exulans*, *Rattus rattus*, *Rattus norvegicus*. Mitchell 1964; ex. *Rattus* sp. University of Hawaii collection.  
Hawaiian Islands. ex. rat. Joyce's note 1958.

### Family Demodicidae

- Demodex folliculorum* (Simon, 1842)  
Oahu. ex. human. University of Hawaii collection.  
*Demodex phylloides* Csokor, 1879



= *Demodex folliculorum suis* (Simon, 1842)

Oahu. ex. pig. Bishop Museum and University of Hawaii collections.

Hawaiian Islands. ex. swine. Swanson 1939.

### Family Tarsonemidae

*Fungitarsonemus peregrinus* (Beer, 1954)

Oahu. ex. morning glory leaves. University of Hawaii collection.

*Polyphagotarsonemus latus* (Banks, 1904)

= *Hemitarsonemus latus* (Banks, 1904)

= *Tarsonemus latus* Banks, 1904

Hawaii. ex. seedling and trees of papaya, citrus trees, potato, mango, dahlia, *Solanum nodiflorum*, *Bidens pilosa*. Look's note 1945; ex. poha. University of Hawaii collection; ex. chard. Hawaii Cooperative Economic Insect Report, April 1, 1966.

Maui. ex. poha. University of Hawaii collection.

Oahu. ex. tomato. Holdaway's note 1944; ex. papaya. Beer 1954; ex. hibiscus, mango, *Thunbergia*, *Celosia argentea*, *Citharexylum spinosum*, and aster flowers. University of Hawaii collection; ex. dahlia, marigold, *Tithonia speciosa*, *Datura fastuosa*. Swezey's note 1939; ex. *Jasminum sambac*. Boyle & Haramoto 1956.

Hawaiian Islands. ex. *Phaseolus vulgaris*. Holdaway & Look 1942; ex. swiss chard. Fullaway 1943; ex. papaya, beet, chard, pepper, green beans. Holdaway, Look & Nishida 1944; ex. *Murraya paniculata*. Pemberton's note 1947.

*Steneotarsonemus ananas* (Tryon, 1908)

= *Tarsonemus ananas* Tryon, 1908

Oahu. ex. *Ananas comosus*. Illingworth 1931; ex. pineapple. Beer 1954, University of Hawaii collection.

*Steneotarsonemus bancrofti* (Michael, 1890)

= *Tarsonemus bancrofti* Michael, 1890

= *Tarsonemus spinipes* Hirst, 1912 (misidentification)

Hawaiian Islands. ex. sugarcane. Pemberton's note 1929; prey of *Podothrips (Kentronothrips) lucasseni*. Bianchi 1940.

*Steneotarsonemus pallidus* (Banks, 1899)

= *Tarsonemus pallidus* Banks, 1899

Kauai. ex. bell pepper. University of Hawaii collection.

Oahu. ex. watercress. Bess' note 1953; ex. *Jasminum sambac*. Haramoto & Boyle 1958, Boyle & Haramoto 1956, Boyle's note 1957; ex. *Emex spinosa*. Davis' note 1959.

*Tarsonemus scaurus* Ewing, 1939

Oahu. ex. decaying carnation flower. University of Hawaii

collection.

Hawaiian Islands. ex. fungus. University of Hawaii collection.

*Tarsonemus setifer* Ewing, 1939

Oahu. ex. fungus or decaying spike of vanda orchid. University of Hawaii collection.

### Family Scutacaridae

*Acarapis externus* Morgenthaler, 1932

= *Tarsonemus woodi* Rennie, 1921

= *Acarapis woodi externus* Morgenthaler, 1932

Oahu. ex. *Apis*. Haramoto's note 1961.

*Scutacarus longitarsus* (Berlese, 1905)

Kauai. ex. *Bufo marinus* feces. Bishop Museum collection.

### Family Pyemotidae

*Pyemotes boylei* Krczal, 1959

Oahu. ex. *Cryptotermes brevis* and larvae of *Araecerus levipennis*.

University of Hawaii collection, Arnold & Haramoto 1962;

ex. buildings. University of Hawaii collection.

Hawaiian Islands. ex. coleopterous larvae infesting beans of

*Leucaena glauca*, *Prosopis pallida*, *Samanea saman*, and *Cassia*.

Arnold & Haramoto 1962.

*Pyemotes ventricosus* (Newport, 1850)

= *Pediculoides ventricosus* (Newport), Berlese, 1886

Oahu. ex. building. Boyle's note 1958.

Hawaiian Islands. causes "kiawe itch". Erhorn's note

1913, Illingworth's note 1927; kerosene helpful in

relieving irritation of bites. Illingworth's note 1923;

ex. stored grains. Pemberton 1943; causes dermatitis

in humans. Pemberton 1943.

*Pygmephorus tarsalis* Hirst, 1921.

Oahu. ex. house. Haramoto's note 1961.

*Siteroptes graminum* (Reuter, 1900)

Kauai. ex. carnation flower. Haramoto's note 1961.

Oahu. ex. carnation. University of Hawaii collection.

### Family Trombiculidae

*Guntherana domrowi* Brennan, 1965

Lisianski Island. ex. *Arenaria interpres*. Brennan 1965.

Pearl and Hermes Reef. ex. *Anous stolidus*. Brennan 1965.

#### SUBORDER ASTIGMATA

### Family Acaridae

*Tyroglyphus* sp.

Hawaiian Islands. complaints received of bites. Bonnet 1948;

ex. soil among roots of wilting pineapple plants. Illing-

worth 1927b.

*Miscellaneous Tyroglyphidae*

Hawaiian Islands. ex. flour, dried fruits. Pemberton 1943.

*Tyrophagus putrescentiae* (Schränk, 1781)

Hawaii. ex. nests of Hawaiian crow. University of Hawaii collection.

Maui. ex. passion fruit. University of Hawaii collection.

Oahu. ex. building. University of Hawaii collection; ex. fruit fly culture medium, loaf of bread (seal unbroken). University of Hawaii collection.

**Family Glycyphagidae***Glycyphagus domesticus* (DeGeer, 1771)

Oahu. house or furniture mite. Zimmerman's note 1956.

**Family Rhizoglyphidae***Histiogaster carpio* (Kramer, 1882)

Oahu. ex. cork insulation in ice cream mixer. University of Hawaii collection.

*Rhizoglyphus echinopus* (Fumouze & Robin, 1868)

= *Rhizoglyphus hyacinthi* Boissieu, 1867

Hawaiian Islands. ex. pineapple. Illingworth 1927a, Illingworth 1928.

*Rhizoglyphus phylloxerae* Riley, 1874.

Hawaiian Islands. ex. root system of pineapple. Illingworth 1929b.

**Family Psoroptidae***Otodectes cynotis* (Hering, 1838)

Oahu. ex. dog ear. University of Hawaii collection.

**Family Analgesidae***Megninia columbae* (Buchholz, 1869)

Hawaiian Islands. ex. pheasant and pigeon. Schwartz & Schwartz 1949.

*Megninia cubitalis* (Megnin, 1877)

Hawaiian Islands. ex. chickens. Alicata 1947.

*Megninia ginglymura* (Megnin, 1877)

Hawaiian Islands. ex. pheasant. Schwartz & Schwartz 1949.

**Family Dermoglyphidae***Gabucinia* sp.

Oahu. ex. pigeon. Zimmerman's note 1956.

*Pterolichus obtusus* Robin, 1868

Hawaiian Islands. ex. chickens. Alicata 1947.

*Xoloptes* sp.

Hawaiian Islands. ex. *Lophortyx californica* and *Coturnix coturnix japonica*. Schwartz & Schwartz 1949.

**Family Proctophyllodidae**

*Proctophyllodes longiphyllus* Atyeo & Braasch, 1966

Oahu. ex. cardinal, *Richmondia cardinalis*. University of Hawaii collection.

*Proctophyllodes vegetans* Trouessart, 1899

Hawaiian Islands. ex. *Carpodacus mexicanus*. University of Hawaii collection.

**Family Epidermoptidae**

*Dermatophagoides scheremetewskyi* Bogdanow, 1864

Oahu. ex. rug in house. Haramoto's note 1961.

**Family Sarcoptidae**

*Knemidokoptes laevis* (Railliet, 1887)

Hawaiian Islands. ex. chickens. Bice 1932.

*Knemidokoptes mutans* (Robin & Lanquetin, 1859)

Hawaiian Islands. ex. legs of chickens. Bice 1932.

*Knemidokoptes pilae* Lavoipierre & Griffiths, 1951.

Oahu. ex. parakeet. University of Hawaii and Bishop Museum collections.

Hawaiian Islands. ex. parakeet. Ivens, Myers, Levine, and Pichard 1965.

*Notoedres cati* (Hering 1838)

Hawaii. ex. *Herpestes auropunctata*. Bishop Museum collection.

Oahu. ex. *Herpestes auropunctata*. University of Hawaii collection.

*Psoroptes cuniculi* (Delafond, 1859)

= *Psoroptes communis* var. *caprae* Railliet, 1893

Oahu. ex. rabbit ear. University of Hawaii collection, Pemberton's note 1945.

*Sarcoptes suis* Gerlach, 1857

= *Sarcoptes scabiei* (DeGeer, 1778) (Misidentification)

Hawaiian Islands. Bonnet 1948; ex. swine. Alicata 1947.

**Family Cytoditidae**

*Cytodites nudus* (Vizioli, 1870)

Hawaiian Islands. ex. air passages, liver and lungs of chickens. Bice 1932.

**Family Listrophoridae**

*Listrophoroides expansus* Ferris, 1932

Oahu. ex. *Rattus exulans*, *Rattus rattus*, *Rattus norvegicus*. Mitchell 1964; ex. *Rattus*. University of Hawaii and Bishop Museum collections.

*Listrophorus gibbus* Pagenstecher, 1861

Oahu. ex. *Oryctolagus cuniculus*. Bishop Museum collection.

*Listrophorus musculus* Wilson & Lawrence, 1967

= *Listrophorus* sp.

Hawaii. ex. *Mus musculus*. Wilson & Lawrence 1967  
untitled note 1959.

Oahu. ex. *Mus musculus*. University of Hawaii collection,  
Wilson & Lawrence 1967

*Myocoptes musculus* (Koch, 1844)

Oahu. ex. *Mus musculus*. University of Hawaii and Bishop Museum collections.

Hawaiian Islands. ex. *Mus musculus*. Joyce's note 1957.

#### SUBORDER CRYPTOSTIGMATA

### Family Epilohmannidae

*Epilohmannia cylindrica* (Berlese, 1904)

= *Epilohmannia verrucosa* Jacot, 1934

Laysan Island. ex. roots of bunchgrass. Aoki 1965.

Oahu. ex. soil. Jacot 1934.

*Epilohmannia pallida pacifica* Aoki, 1965

Laysan Island. ex. roots of bunchgrass. Aoki 1965.

### Family Liodidae

*Liodes hawaiiensis* (Jacot, 1929)

= *Neoliodes hawaiiensis* (Jacot, 1929)

= *Udetaliodes hawaiiensis* Jacot, 1929

Lanai. Jacot 1929, Jacot 1934.

Maui. Jacot 1929, Jacot 1934.

Molokai. Jacot 1929, Jacot 1934.

Oahu. ex. dead tree-fern stumps. Jacot 1929; Jacot 1934.

*Liodes swezeyi* (Jacot, 1929)

= *Neoliodes swezeyi* (Jacot, 1929)

= *Udetaliodes swezeyi* Jacot, 1929

Oahu. Jacot 1929, Jacot 1934.

*Liodes theleproctus* (Hermann, 1804)

= *Neoliodes theleproctus* (Hermann)

= *Notaspis theleproctus* Hermann, 1804

Hawaii. Pearce 1910.

Kauai. Pearce 1910.

Lanai. Pearce 1910.

Molokai. Pearce 1910.

*Liodes wakensis* (Jacot, 1929)

= *Neoliodes hawaiiensis wakensis* (Jacot)

= *Udetaliodes hawaiiensis wakensis* Jacot, 1929

Nihoa. Jacot 1929.

### Family Carabodidae

*Anisochthodes papillifer* Newell, 1957

Oahu. ex. bark and leaves of ohia lehua, (*Metrosideros collina polymorpha*). Newell 1957.

*Carabodes* sp.

Kure Island. Butler & Usinger 1963a.

*Carabodes imperfectus* Sellnick, 1959

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

*Odontocephus immarginatus* Jacot, 1934

Oahu. ex. *Sphenomeris chinensis*. Jacot 1934.

### Family Niphocephidae

*Cepheus pustulatus* (Pearce, 1910)

= *Tegeocranus pustulatus* Pearce, 1910

Molokai. Pearce 1910.

### Family Tectocephidae

*Tectocephus sarekensis* Tragardh, 1910

Laysan Island. ex. roots of bunchgrass. Aoki 1964b.

*Tectocephus velatus* (Michael, 1880)

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

### Family Cymbaeremaeidae

*Scapheremaeus fisheri* Aoki, 1966

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

*Scapheremaeus sinosus* Aoki, 1964

Laysan Island. ex. roots of bunchgrass and resting place of wedge-tailed shearwater. Aoki 1964b.

### Family Tetracondylidae

*Tetracondyla damoecoides* (Berlese, 1913)

Hawaiian Islands. Newell 1956a.

*Tetracondyla pallida* Newell, 1956

Oahu. Newell 1956a.

### Family Eremaeidae

*Calvoppia perkinsi* Jacot, 1934

= *Notaspis lucorum* (Koch, 1841) (misidentification)

Hawaii. Pearce 1910.

Maui. Pearce 1910.

Hawaiian Islands. Jacot 1934.

*Imparatoppia imparata* Jacot, 1934

= *Notaspis lucorum* (Koch, 1841) (misidentification)

Hawaiian Islands. Jacot 1934.

*Oribata alata* (Hermann, 1804)

Hawaii. Pearce 1910.

Kauai. Pearce 1910.

Lanai. Pearce 1910.

*Oribata lapidaria* Lucas, 1846

Hawaii. Pearce 1910.

*Oribata ovalis* Koch, 1835

Kauai. Pearce 1910.

*Phauloppia bryani* Jacot, 1934

French Frigate Shoals. Jacot 1934.

### Family Oppiidae

*Multioppia wilsoni* Aoki, 1964

Laysan Island. ex. wedge-tailed shearwater resting place.

Aoki 1964b.

*Oppia alces* (Jacot, 1934)

= *Dameosoma alces* Jacot, 1934

Hawaii. ex. minute hole in cane root. Jacot 1934.

*Oppia cronus* Jacot, 1934

Oahu. ex. soil samples. Jacot 1934.

*Oppia ultraciliata* (Jacot, 1934)

= *Dameosoma ultraciliata* Jacot, 1934

Oahu. ex. decaying cane stool. Jacot 1934.

### Family Oribatulidae

*Cardioribates oriformis* (Pearce, 1910)

= *Oribata oriformis* Pearce, 1910

= *Notaspis lucorum* (Koch, 1841) (misidentification)

Hawaii. Pearce 1910.

Hawaiian Islands. Jacot 1934.

*Nesoribatula pacifica* Aoki, 1964

Laysan Island. ex. resting place of wedge-tailed shearwater  
and from roots of bunchgrass. Aoki 1964b.

*Protoschelobates castlei* Jacot, 1934

Oahu. ex. chips of wood. Jacot 1934

*Protoschelobates insularis* (Oudemans, 1917)

= *Murcia insularis* Oudemans, 1917

Hawaiian Islands. Jacot 1934.

*Protoschelobates insularis sandvicensis* Jacot, 1934

Hawaii. ex. hole in sugar-cane stool. Jacot 1934.

Oahu. ex. decaying cane stool. Jacot 1934; ex. moss. Jacot 1934.

*Protoschelobates pambertoni* Jacot, 1934

Hawaii. ex. cane roots. hole in cane stool underground. Jacot 1934.

Oahu. ex. soil samples from cane fields. Jacot 1934.

*Protoschelobates vanzwaluwenburgi* Jacot, 1934

Oahu. ex. soil samples from cane fields. Jacot 1934.

*Scheloribates calcaratus* Jacot, 1934

Laysan Island. under *Heliotropium*. Butler & Usinger 1963b.

Oahu. ex. soil samples from cane fields. Jacot 1934.

*Scheloribates indica* (Oudemans, 1915)

Oahu. ex. epigeous moss under *Sphenomeris chinensis*. Jacot 1934.

*Scheloribates manoi* Jacot, 1934

Oahu. ex. leaf base of stump of *Sadleria cyatheoides*. Jacot 1934.

*Scheloribates muiri* Jacot, 1934

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

Oahu. ex. soil samples, under dry cane leaf sheath, under surface of stones, dead twigs lying beneath grass. Jacot 1934.

*Scheloribates oahuensis* Jacot, 1934

Oahu. ex. dead twig lying beneath grass. Jacot 1934.

*Styloribates pectinatus* Jacot, 1934

Oahu. ex. soil samples, cane fields. Jacot 1934.

**Family Ceratozetidae***Ceratozetes incurvus* Aoki, 1964

Laysan Island. ex. roots of bunchgrass. Aoki 1964b.

*Humerobates perkinsi* (Jacot, 1934)

= *Humerobates humeralis perkinsi* (Jacot, 1934)

= *Oribata globula* (Koch, 1841) (misidentification)

Hawaii. Pearce 1910.

Lanai. Jacot 1934, Pearce 1910.

Oahu. Jacot 1934.

*Hypozetes laysanensis* Aoki, 1964

Laysan Island. ex. resting place of wedge-tailed shearwater.

Aoki 1964b.

**Family Microzetidae***Microzetes auxilaris* Grandjean, 1936

Laysan Island. ex. roots of bunchgrass. Aoki 1964b.

**Family Haplozetidae***Protoribates pambertoni* (Jacot, 1934)

= *Xylobates pambertoni* Jacot, 1934

Hawaii. ex. minute fresh hole in tender cane root. Jacot 1934.

**Family Galumnidae***Galumna australis pambertoni* (Jacot, 1934)

= *Zetes australis pambertoni* Jacot, 1934

Hawaii. ex. cane stool underground. Jacot 1934.

Lanai. Jacot 1934.

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

Oahu. ex. under surface of stones. Jacot 1934.

*Galumna elimata* (Koch, 1841)

= *Zetes elimatus* Koch, 1841

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

*Galumna flabellifera* Hammer, 1958

Laysan Island. ex. roots of bunchgrass and at resting place of wedge-tailed shearwater. Aoki 1964b.

*Galumna fordii* (Jacot, 1934)



= *Zetes fordii* Jacot, 1934

Oahu. under surface of stones. Jacot 1934.

*Galumna hawaiiensis* Jacot, 1934

Oahu. beneath bark of dead tree. Jacot 1934.

*Galumna swezeyi* Jacot, 1928

Lanai. Jacot 1934.

Oahu. ex. dead *Euphorbia*. Jacot 1928, Jacot 1934.

*Pergalumna* sp.

Kure Island. Butler & Usinger 1963a.

### Family Phthiracaridae

*Hoplodermia dasypus* (Dugès, 1834)

Hawaii. Pearce 1910.

Kauai. Pearce 1910.

Lanai. Pearce 1910.

Oahu. Pearce 1910.

### Family Oribotritiidae

*Oribotritia hawaiiensis* (Jacot, 1928)

= *Euphthiracarus* (*Indotritia*) *hawaiiensis* Jacot, 1928

Oahu. Jacot 1928; beneath bark of dead tree. Jacot 1934.

### Family Euphthiracaridae

*Rhyssotritia ardua* (Koch, 1841)

= *Hoplophora ardua* Koch, 1841

Midway Island. ex. nest of *Diomedea immutabilis*. Aoki 1966.

### Family Trhypochthoniidae

*Hydronothrus crispus* Aoki, 1964

Kauai. under the water of taro patch. Aoki 1964a.

### Miscellaneous mites

"Red spider" on leaves of kou trees. Bishop 1916.

On *Lithurgus* and *Xylocopa*: swarms massed on propoderm and anterior abdominal segments. Gifford 1922.

*Stethorus vagans* predacious on leaf mites. Swezey's note 1923.

Heavy infestation on prothetelous larva of *Monocrepidius exoul* (elaterid). Williams 1925.

Numerous mites seen on *Lagocheirus* and *Dactylospermum* beetles. Swezey 1926.

*Xylocopa varipuncta* well laden with acari. Williams 1927.

Clusters of gravid females found to have consumed a few larvae of the moth, *Acrapex exanimis*. Swezey 1928.

Mites of tiny size abundant on the undersides of coffee leaves. Illingworth 1929a.

Leaf mites or red spiders sometimes abundant on *Acacia koa*. Swezey 1931.

Indication that mites persist for at least 3 months on dried pineapple planting material on the trimming ground. Ito & Carter 1932.  
 Six-legged mites attached to adult *Anax strenuus*. Williams' note 1946.  
 Aquatic mites fed on by smaller nymphs of *Anax* spp. Williams 1936.  
 Undetermined species of mange mites on dogs. Alicata 1947.

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## APPENDIX

## SPECIES REPORTED FROM HAWAII FOR THE FIRST TIME

- Aceria aloinis*** (Keifer)—University of Hawaii collection.
- Agistemus terminalis*** (Quayle)—University of Hawaii collection.
- Amblyseius* (*Amblyseius*) *longispinosus*** (Evans)—University of Hawaii collection.
- Amblyseius* (*Amblyseius*) *orientalis*** Ehara—University of Hawaii collection.
- Anystis baccharum*** (Linnaeus)—University of Hawaii collection.
- Blattisocius dendriticus*** (Berlese)—University of Hawaii collection.
- Blattisocius keegani*** (Fox)—University of Hawaii collection.
- Blattisocius tarsalis*** (Berlese)—University of Hawaii collection.
- Cheyletiella parasitivorax*** (Megnin)—Tomich, Wilson & Lamoureux's unpublished manuscript.
- Cheyletus eruditus*** (Schränk)—University of Hawaii collection.
- Cheyletus fortis*** Oudemans—University of Hawaii collection.
- Cosmolaelaps diversichaetatus*** Grochovskaya & Nguen-Huan-Hoe—Bishop Museum collection.
- Cryptognathus fавus*** Summers & Chandhri—Bishop Museum collection.
- Demodex folliculorum*** (Simon)—University of Hawaii collection.

- Eotetranychus lewisi** (McGregor)—University of Hawaii collection.
- Eulaelaps stabularis** (Koch)—Bishop Museum collection.
- Eupodes** sp.—University of Hawaii collection.
- Fungitarsonemus peregrinus** (Beer)—University of Hawaii collection.
- Glyptholaspis americana** (Berlese)—Bishop Museum collection.
- Grallacheles bakeri** DeLeon—University of Hawaii collection.
- Harpyrhynchus pilirostris** Berlese & Trouessart—Bishop Museum collection.
- Hirstionyssus latiscutatus** (de Meillon & Lavoipierre)—Bishop Museum collection.
- Histiogaster carpio** (Kramer)—University of Hawaii collection.
- Holaspulus tenuipes** Berlese—University of Hawaii collection.
- Liroaspis armatus** Fox—Bishop Museum collection.
- Listrophorus gibbus** Pagenstecher—Bishop Museum collection.
- Notoedres cati** (Hering)—University of Hawaii and Bishop Museum collections.
- Oligonychus coniferarum** (McGregor)—University of Hawaii collection.
- Oligonychus hondoensis** (Ehara)—University of Hawaii collection.
- Ornithonyssus sylviarum** (Canestrini & Fanzago)—University of Hawaii and Bishop Museum collections.
- Otodectes cynotis** (Hering)—University of Hawaii collection.
- Paracheyletia wellsi** (Baker)—University of Hawaii collection.
- Paralorryia**?—University of Hawaii collection.
- Proctolaelaps pygmaeus** (Müller)—University of Hawaii and Bishop Museum collections.
- Proctophyllodes longiphyllus** Atyeo & Braasch—University of Hawaii collection.
- Proctophyllodes vegetans** Trouessart—University of Hawaii collection.
- Scutacarus longitarsus** (Berlese)—Bishop Museum collection.
- Steatonyssus (Steatonyssella) furmani** Tipton & Boese—Bishop Museum collection.
- Tarsonemus scaurus** Ewing—University of Hawaii collection.
- Tarsonemus setifer** Ewing—University of Hawaii collection.
- Tetranychus desertorum** Banks—University of Hawaii collection.
- Tydeus californicus** (Banks)—University of Hawaii collection.
- Typhlodromus (Neoseiulus) bakeri** (Garman)—Bishop Museum collection.
- Tyrophagus putrescentiae** (Schrank)—University of Hawaii collection.
- Veigaia nemorensis** (Koch)—Bishop Museum collection.

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